

CLAIMS

1. A spread spectrum signal processing apparatus comprising a correlator for correlating a spread spectrum
5 signal with a reference signal, and processing a correlation signal from the correlator, characterized in that:

a spreading code having a prescribed length and used to despread said spread signal is divided into a plurality of divided codes; each of the divided codes is sequentially supplied to said correlator as a reference signal in accordance with the order of arrangement in said spreading code; said correlation signal which is output corresponding to said each of the
10 divided codes is summed; and a summed result is output.

2. A spread spectrum signal processing apparatus comprising a correlator for correlating a spread spectrum signal with a reference signal, and processing a correlation signal from the correlator, characterized
15 by:

control means for controlling supply of each of divided codes sequentially to said correlator as the reference signal in accordance with the order of arrangement in a spreading code, said each of divided
20 codes being formed by dividing the spreading code having a prescribed length and used to despread said spread signal

into a plurality of divided codes; and signal processing means for summing said correlation signal which is output corresponding to said each of the divided codes and for outputting a summed result.

- 5 3. A spread spectrum signal processing apparatus according to claim 2, characterized in that:

said signal processing means comprises an A/D converter for converting said correlation signal into a digital signal, memory means for storing the digital signal from said A/D converter as digital data, and a signal processor for summing said digital data corresponding to said each of the divided codes and for outputting the summed result, and

10
15 said signal processor starts the summing of said digital data by making reference to the timing at which said control means supplies said divided code to said correlator.

4. A spread spectrum signal processing apparatus according to claim 2, characterized in that:

20 said signal processing means includes a plurality of delay elements for delaying a signal by a time duration corresponding to a length of said divided code, and

each of said delay elements is connected in cascade, and an output of said correlator is connected to an input
25 of each of said delay elements and to an output of a last stage of said delay elements.

5. A spread spectrum signal processing apparatus according to claim 2, characterized in that:

said signal processing means includes a plurality of delay elements for delaying a signal by a time duration
5 corresponding to a length of said divided code, and an adder for summing a delay signal from said each delay element and said correlation signal, and

each of said delay elements is connected in cascade, and an output of said correlator is connected to an input
10 of a first stage of said delay elements.

6. A spread spectrum signal processing apparatus according to any one of claims 1 to 5, characterized in that:

said each of the divided codes is constituted to
15 have an identical length.

7. A spread spectrum signal processing apparatus according to any one of claims 1 to 6, characterized in that:

said correlator is a surface acoustic wave convolver,
20 and

said each of the divided codes has the same length as or shorter length than a code length corresponding to an interaction length of said convolver.

8. A spread spectrum signal processing apparatus
25 according to claim 2, characterized in that:

said control means, until a peak of said correlation

signal is detected, generates successively a divided code positioned at a prescribed order in the arrangement order of said spreading code among the divided codes as said reference signal, said divided codes being obtained by
5 dividing into a plurality of divided codes the spreading code of a prescribed length used to despread said spread signal, and said control means, after a peak of said correlation signal is detected, generates successively each of said divide codes in sequence as said reference
10 signal from the next of said prescribed order.

9. A spread spectrum communication system for performing communication using a spread spectrum signal between at least two communication equipments, characterized in that:

15 said communication equipment comprises synchronization detecting means for performing synchronization recognition of said spread signal, and despread means for performing despread on said spread signal by making reference to a synchronization
20 recognition signal from said synchronization detecting means, and

said spread spectrum signal processing apparatus according to any of one of claims 1 to 7 is applied to either of said synchronization detecting means or said
25 despread means.